



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,248	06/23/2003	Tom Altus	Intel 2207/760602	1928
7590 09/12/2006				
KENYON & KENYON Suite 600 333 W. San Carlos Street San Jose, CA 95110-2711			EXAMINER MAI, TAN V	
			ART UNIT 2193	PAPER NUMBER

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/602,248

Applicant(s)

ALTUS ET AL.

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-26 and 28-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 7-26, 28-30 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/29/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

1. The abstract of the disclosure is objected to because superfluous language is used in this paragraph (i.e., "[t]he present invention is" (lines 1 and 3)). Correction is required. See MPEP § 608.01(b).

2. Claims 7-26 and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per independent claim 7, the claim language is vague and indefinite. For instance, although the preamble of independent claim claims "an apparatus for calculating an intermediate value between a first value, X, and a second value, Y, as  $P \cdot X + (1 - P) \cdot X$ ", the claim fails to recite the necessary detail physical structures to perform the recited function  $[P \cdot X + (1 - P) \cdot X]$  nor are there any recitation describing how such an apparatus (or elements) is actually provided in the apparatus. Sufficient detail apparatus or elements must be recited to adequately describe and constitute the proposed apparatus. It is noted that a set of serial adding devices with an input can NOT perform the function  $P \cdot X + (1 - P) \cdot X$ . Also, it is noted that the phrase "that is **more precise than** its input value" (last two lines) is vague. It is unclear how to compare the output with the input. Clarification is requested.

Due to the similarity of independent claims 23 & 28 (apparatus for calculating ...(lines 5-10)) to claim 7, they are rejected under a similar rationale.

As per independent claim 12, the claim language is vague and indefinite. For instance, although the preamble of independent claim claims "an apparatus for multiplying a value, X, by a fraction P, producing a result", the claim fails to recite the necessary detail physical structures to perform the recited function nor are there any recitation describing how such an apparatus (or elements) is actually provided in the apparatus. Sufficient detail apparatus or elements must be recited to adequately describe and constitute the proposed apparatus. It is unclear what are the value X and fraction P in the body of the claim. Clarification is requested.

Due to the similarity of independent claims 18, 25, and 29-30 (apparatus for calculating ...(lines 5-11)) to claim 12, they are rejected under a similar rationale.

It is noted that at least the independent claims 7, 12 and 18 seem to be incomplete in that they recite only a portion of the methodology required for the apparatus to become operational, i.e., they omit essential elements and/or steps. See MPEP 2172.01.

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 23-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite methods for performing a mathematical function.

"[t]o satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

- . The claimed invention "transforms" an article or physical object to a different state or thing.
- . The claimed invention otherwise produces a useful, concrete and tangible result,...".

See "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" OG Date: 22 November 2005.

Since there is no physical transform to establish a practical application, a **useful, concrete and tangible result appears** to be lacking. Therefore, claims 23-25 are directed to a non-statutory process.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 18, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakita et al.

As per independent claim 7, Kawakita et al disclose, e.g., see Fig. 1, the invention substantially as claimed, including a plurality of serial adders (20-23).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Kawakita et al's teachings because the plurality of serial adders can be used as the claimed "division stage" as claimed.

Due to the similarity of claims 18, 28 and 30 to claim 7, they are rejected under a similar rationale.

6. Claims 7, 18, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doran.

As per independent claim 7, Doran discloses, e.g., see Fig. 5, the invention substantially as claimed, including a plurality of serial adders (4-1 to 4-4). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Doran's teachings because the plurality of serial adders can be used as the claimed "division stage" as claimed.

Due to the similarity of claims 18, 28 and 30 to claim 7, they are rejected under a similar rationale.

7. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kawakita et al or Doran in view of Inagawa et al.

Kawakita et al and Doran have been discussed in paragraphs 5-6 above.

As per dependent claim 8, the claim adds "multiplication stage coupled to said division stage". Inagawa et al disclose, Fig. 4, an apparatus having "multiplication stage coupled to said division stage". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Inagawa et al feature in either Kawakita et al or Doran thereby making the claimed invention, because

the proposed device is an apparatus is capable of performing sum of product having "multiplication stage coupled to said division stage" as claimed.

Due to the similarity of claim 19 to claim 8, it is rejected under a similar rationale.

8. Claims 12 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Stampler, Lerouge or Sato.

As per independent claim 12, Stampler (Fig. 4), Lerouge (Fig. 1) and Sato (Fig. 2) discloses the invention substantially as claimed, including a plurality ANDing devices and adder devices. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to either Stampler, Lerouge or Sato's teachings because the a plurality ANDing devices and adder devices can be used as the claimed "multiplication stage" as claimed.

Due to the similarity of claim 29 to claim 12, it is rejected under a similar rationale.

9. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over either either Stampler, Lerouge or Sato in view of Inagawa et al.

Stampler, Lerouge or Sato have been discussed in paragraph 8 above.

As per dependent claim 13, the claim adds "multiplication stage coupled to said division stage". Inagawa et al disclose, Fig. 4, an apparatus having "division stage coupled to said multiplication stage". It would have been obvious to a person having

Art Unit: 2193

ordinary skill in the art at the time the invention was made to combine Inagawa et al feature in either Stamper, Lerouge or Sato thereby making the claimed invention, because the proposed device is an apparatus is capable of performing sum of product having "division stage coupled to said multiplication stage" as claimed.

10. Claims 9-11, 14-7 and 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 23-25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and 35 U.S.C. 101 set forth in this Office action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

12. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the detail features as recited in claims 9, 14 15, 20, 23 and 25.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."




13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

  
Tan V. Mai  
Primary Examiner